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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/796,048

03/10/2004

Hideki Kamada

249171US0

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22850

7590

01/22/2007

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.

1940 DUKE STREET

ALEXANDRIA, VA 22314

EXAMINER

STEELE, JENNIFER A

ART UNIT

PAPER NUMBER

1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/796,048

Applicant(s)

KAMADA ET AL.

Examiner

Jennifer Steele

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 9-12 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-8, 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-12 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/9/2004
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

NONFINAL OFFICE ACTION

Election/Restrictions

1. Claim 5-8, 13-16 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Group II, method of making product, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/04/2006.

Claim Rejections - 35 USC § 102/103

2. Claim 1, 2, 9, 10, 17 and 18 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Deguchi (US 6485828). Deguchi teaches flattened synthetic fibers including polyvinyl alcohol fibers (col. 4, lines 35-40) suitable for a high strength nonwoven fabric. Deguchi teaches a long diameter and short diameter where the ratio of long diameter to short diameter is preferably 5 or higher and preferably 50 or less. The current application teaches a major side (L) equivalent to the long diameter and a minor side (D) equivalent to the short diameter. The current application L/D is in the range of Deguchi's long diameter to short diameter ratio and therefore anticipated by Deguchi. Deguchi is silent with respect to the property of D (μm), which is equal to cross-sectional area of the fibers divided by the length of the fibers, $D = S/L$, stated in claim 1 of the current application. Deguchi teaches short diameter that are 7 μm or less and 0.5 μm or higher and a long diameter of preferably 3 mm or higher. Deguchi teaches a flattened polyvinyl alcohol fibers, but does not provide the fiber dimensions necessary to perform the calculations, the burden

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is shifted to Applicant to show that the fiber of Deguchi does not meet the equation $0.4 \leq D \leq 5$. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claim 3, 11 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Deguchi (US 6485828) in view of Maeda (US 3855056). Deguchi teaches flat synthetic fibers including polyvinyl alcohol, suitable for nonwoven fabric of high strength for

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applications of fiberboards. Deguchi differs from the current application and does not teach branched fibers. Maeda teaches polyvinyl alcohol fibers suitable for synthetic nonwoven paper. Maeda teaches fibrillating the fibers to have branched fibers that results in inter-felting between pulp fibers and produces wet strength that otherwise would not be present when using polyvinyl alcohol fibers. Maeda does not teach flat fibers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the flat fibers of Deguchi and the branched fibers of Maeda motivated to produce a high strength nonwoven fabric of polyvinyl alcohol fibers.


4. Claim 4, 12, 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Deguchi (US 6485828) in view of Howard (US 5230949). Deguchi teaches flat synthetic fibers including polyvinyl alcohol, suitable for nonwoven fabric of high strength. Deguchi differs from the current application and does not teach a layered compound. Howard teaches fibers or filaments prepared with a filler and extruded to form fibers that may be formed into nonwoven webs. The fillers can be minerals such as mica, montmorillonite or siliceous fillers that also include mica's vermiculite (col. 3, lines 4-25). Fillers are used to improve properties of the polymer fiber including mechanical and thermal properties. This invention is motivated to improve wettability or absorption. Howard teaches filler amounts of 10-90% by volume of fibers, but preferably between 40-60% (col. 4, lines 43-51). The average particle size of the filler is preferably 0.01-10 microns. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine to add an inorganic filler material to the polyvinyl alcohol fibers motivated to improve the properties of the PVA fibers.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Steele whose telephone number is (571) 272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ELIZABETH M. COLE
PRIMARY EXAMINER

1/18/2007